

IN THE CLAIMS

Please amend the claims as follows.

1. (Currently Amended) A block decision feedback equalizer for channel equalization comprising:

a forward filter receiving and concurrently processing blocks containing ~~a predetermined number of~~ input samples;

a feedback filter receiving and concurrently processing blocks containing ~~the predetermined number of~~ demapped equalized output samples; and

a signal adder combining filtered input samples for a current block from the forward filter, ~~[[and]] filtered output samples for the current block from the feedback filter, and intra-block time varying output correction coefficients for the forward filter~~ to produce equalized output samples for the current block.

2. (Currently Amended) The block decision feedback equalizer as set forth in Claim 1 wherein the signal adder receives the intra-block time varying output correction coefficients for ~~[[both]] the forward filter and intra-block time varying output correction coefficients for the feedback filter~~ ~~[[s]]~~ for addition to the filtered input samples and the filtered output samples in producing the equalized samples.

3. (Currently Amended) The block decision feedback equalizer as set forth in Claim 1 wherein the signal adder receives ~~[[only]]~~ the intra-block time varying output correction coefficients for the forward filter and not intra-block time varying output correction coefficients for the feedback filter for addition to the filtered input samples and the filtered output samples in producing the equalized samples.

4. (Original) The block decision feedback equalizer as set forth in Claim 3 wherein the signal adder receives the intra-block time varying output correction coefficients for the forward filter only when an error measurement for the current block exceeds a threshold.

5. (Original) The block decision feedback equalizer as set forth in Claim 3 wherein filter coefficients utilized to produce the intra-block time varying output correction coefficients are computed at a rate lower than a rate at which input samples are received.

6. (Cancelled).

7. (Original) The block decision feedback equalizer as set forth in Claim 1 further comprising:

a forward error computation unit receiving the input samples to compute an inverse channel estimate and an error vector and producing an output correction vector for the forward filter; and

a feedback error computation unit receiving the demapped equalized output samples to compute the inverse channel estimate and the error vector and producing an output correction vector for the feedback filter.

8. (Currently Amended) A receiver comprising:
an input for receiving an input signal;
a channel decoder for decoding the input signals; and
a block decision feedback equalizer within the channel decoder for channel equalization comprising:

a forward filter receiving and concurrently processing blocks containing a ~~predetermined number of~~ input samples from the input signal;

a feedback filter receiving and concurrently processing blocks containing the ~~predetermined number of~~ demapped equalized output samples; and

a signal adder combining filtered input samples for a current block from the forward filter, ~~[[and]]~~ filtered output samples for the current block from the feedback filter, and intra-block time varying output correction coefficients for the forward filter to produce equalized output samples for the current block.

9. (Currently Amended) The receiver as set forth in Claim 8 wherein the signal adder receives the intra-block time varying output correction coefficients for ~~[[both]]~~ the forward filter and intra-block time varying output correction coefficients for the feedback filter ~~[[s]]~~ for addition to the filtered input samples and the filtered output samples in producing the equalized samples.

10. (Currently Amended) The receiver as set forth in Claim 8 wherein the signal adder receives [[only]] the intra-block time varying output correction coefficients for the forward filter and not intra-block time varying output correction coefficients for the feedback filter for addition to the filtered input samples and the filtered output samples in producing the equalized samples.

11. (Original) The receiver as set forth in Claim 10 wherein the signal adder receives the intra-block time varying output correction coefficients for the forward filter only when an error measurement for the current block exceeds a threshold.

12. (Original) The receiver as set forth in Claim 10 wherein filter coefficients utilized to produce the intra-block time varying output correction coefficients are computed for the forward filter at a rate lower than a rate at which input samples are received.

13. (Cancelled).

14. (Original) The receiver as set forth in Claim 8 wherein the block decision feedback equalizer further comprises:

a forward error computation unit receiving the input samples to compute an inverse channel estimate and an error vector and producing an output correction vector for the forward filter; and

a feedback error computation unit receiving the demapped equalized output samples to compute the inverse channel estimate and the error vector and producing an output correction vector for the feedback filter.

15. (Currently Amended) A method of block channel equalization comprising:
receiving and concurrently processing blocks containing ~~a predetermined number of~~ input samples within a forward filter;

receiving and concurrently processing blocks containing ~~the predetermined number of~~ demapped equalized output samples within a feedback filter; and

combining filtered input samples for a current block from the forward filter, ~~[[and]]~~ filtered output samples for the current block from the feedback filter, and intra-block time varying output correction coefficients for the forward filter within a signal adder to produce equalized output samples for the current block.

16. (Currently Amended) The method as set forth in Claim 15 further comprising:
receiving the intra-block time varying output correction coefficients for ~~[[both]]~~ the forward ~~filter~~ and intra-block time varying output correction coefficients for the feedback filter ~~[[s]]~~ within the signal adder for addition to the filtered input samples and the filtered output samples in producing the equalized samples.

17. (Currently Amended) The method as set forth in Claim 15 further comprising:
receiving ~~[[only]]~~ the intra-block time varying output correction coefficients for the forward filter within the signal adder and not intra-block time varying output correction coefficients for the feedback filter for addition to the filtered input samples and the filtered output samples in producing the equalized samples.

18. (Original) The method as set forth in Claim 17 wherein the step of receiving only intra-block time varying output correction coefficients for the forward filter within the signal adder and not intra-block time varying output correction coefficients for the feedback filter for addition to the filtered input samples and the filtered output samples in producing the equalized samples further comprises:

receiving the intra-block time varying output correction coefficients for the forward filter only when an error measurement for the current block exceeds a threshold.

19. (Original) The method as set forth in Claim 17 wherein the step of receiving only intra-block time varying output correction coefficients for the forward filter within the signal adder and not intra-block time varying output correction coefficients for the feedback filter for addition to the filtered input samples and the filtered output samples in producing the equalized samples further comprises:

computing filter coefficients utilized to produce the intra-block time varying output correction coefficients for the forward filter at a rate lower than a rate at which the filtered input samples are received.

20. (Cancelled).

21. (New) The block decision feedback equalizer as set forth in Claim 1, wherein:
the forward filter receives and concurrently processes blocks containing a predetermined number of input samples; and

the feedback filter receives and concurrently processes blocks containing the predetermined number of demapped equalized output samples.

22. (New) The receiver as set forth in Claim 8, wherein:

the forward filter receives and concurrently processes blocks containing a predetermined number of input samples; and

the feedback filter receives and concurrently processes blocks containing the predetermined number of demapped equalized output samples.

23. (New) The method as set forth in Claim 15, wherein:

receiving and concurrently processing the blocks containing the input samples comprises receiving and concurrently processing blocks containing a predetermined number of input samples; and

receiving and concurrently processing the blocks containing the demapped equalized output samples comprises receiving and concurrently processing blocks containing the predetermined number of demapped equalized output samples.